

6/22/05

**Background Information**  
**Red Tide Outbreak in New England Waters**  
**Impact on the Fishermen and Economy of Maine**

**I. Summary:** The current outbreak of red tide is considered the worst in 30 years in New England. As a result of the red tide bloom, on June 14, NOAA closed a substantial area of Federal waters in New England to the harvesting of clams and similar mollusks. The State of Maine has also closed substantial areas due to red tide. On June 14, Governor Baldacci asked the Secretary of Commerce declare a commercial fishery failure, as provided for under Section 312(a) of the Magnuson-Stevens Fishery Conservation and Management Act, to provide financial relief for the affected individuals, businesses and communities of Maine.

**II. Background Information:** Closures of coastal shellfish beds have been instituted for parts of the New England coast from the Canadian border to southern Massachusetts. The State of Maine has closed extensive areas in the past month. Some Maine clam beds have been closed due to the risk of Paralytic Shellfish Poison (PSP) since 2004.. New Hampshire closed its entire Atlantic coast to shellfish harvesting on May 18, 2005. The first Massachusetts closures (from Cape Ann to the New Hampshire border) was put in place the same day. Since that day, the closed areas in Massachusetts have been extended so that almost all of the shellfish beds are now closed.

On June 10, NOAA Fisheries received a letter from Lester Crawford, Acting Commissioner for Food and Drugs (FDA) requesting that NOAA close all Federal waters that lie between 69° and 71° West Longitude and 40° and 43° North Latitude. This is an area of approximately 15,000 square miles.

NOAA Fisheries published an emergency closure this week to close this area to harvesting of all bivalve mollusks, starting June 14, 2005. The only exception to this rule is for the meat of scallops, which is not affected by red tide. (The viscera of scallops is affected and the closure prohibits the landing of whole scallops.)

The dimensions of the closure are based on the following advice from the FDA:

1. The bloom is the largest on record and continues to rapidly expand, necessitating a comprehensive closure area.
2. Information obtained from the Woods Hole Oceanographic Institute indicate that cell counts (i.e., a measure of the density of organisms that are capable of producing the toxin) are continuing to increase and that the bloom is moving in an easterly direction toward Georges Bank (i.e., further into the federal waters proposed for closure). It is expected that this movement will continue, but that areas north and south of the proposed closure will not be affected.
3. Shellfish sampled by the State of Massachusetts near the landward side of the proposed closure have shown toxin levels exceeding safe levels.
4. Information available from state authorities indicates that the affected industry is well aware of the problem and has already taken measures to avoid harvest in the area.

NOAA Port agents have been on the look out for samples of shellfish from the area and report that very few samples are coming in.

5. State shellfish authorities and marine biotoxin experts from FDA and Woods Hole have concluded that the proposed closure area is a reasonable and appropriate public health protection measure.

6. FDA is communicating with scientists at the Woods Hole Oceanographic Institution and state and Federal authorities to track the spread of the bloom and will continue to work with them to assess the safety of shellfish from affected areas.

The FDA advised that the closure may last at least two to three months. Accordingly, the emergency closure will last until September 30, 2005, unless lifted early. If the FDA determines that the closure is still necessary, it may be extended. FDA intends to set up a sampling protocol and will recommend that NOAA reopen the area when the cell counts drop and the PSP levels are consistently below the safety threshold. However, it may be difficult to get samples from areas that are closed to commercial harvesting.

**III. Commercial Fishery Failure Declaration:** Section 312(a) of the Magnuson Stevens Fishery Conservation and Management Act allows the Secretary to declare a commercial fishery failure due to a fishery resource disaster as a result of natural or man-made causes. On June 14, 2005, the Governor of Maine asked the Secretary to declare a commercial shellfish fishery failure as a result of the worst red tide the State of Maine has seen in 30 years. The Governor reported that the red tide has affected the Maine shellfish industry in a way that may not be survivable for many individuals without Federal assistance. The Commonwealth of Massachusetts had requested such a declaration on June 10. The Secretary concurred with Massachusetts's recommendation on June 16.

#### *Effect of Closure*

The Northeast Fisheries Science Center (NEFSC) does not have information about the economic impact of the State closures, and relies on the following information provided by the State of Maine for analysis.

The State of Maine has provided an estimate of the economic impact of the State closures due to the current red tide occurrence on an approximately 640 shellfish harvesters, 25 shellfish aquaculturists, and 40 boat based shellfish fishermen. The State's advice is that the economic impact of the closures is \$560,000 per week. Using economic multipliers of 3.0 and 4.5, the State estimates the impact on Maine's coastal economy to be \$1.68 million to \$2.52 million weekly. The estimate of a multiplier of 4.5 is for a "sales" multiplier: it assesses the total business associated with changes in the value of landings. The multiplier of 3 is the income multiplier and is the more accurate estimate of the real loss to people's incomes from the change in landings. If the state is to compensate people, the estimate of \$1.68M per week (i.e., the multiple of 3) is what is appropriate.

Much of the impact is occurring in Washington County, an area in Maine that is economically disadvantaged. For this reason, the resultant economic impacts of closures in eastern Maine are particularly hard hitting. During the height of the shellfish season,

the estimated monthly impact of the closures is estimated at \$6.5 million to \$10.0 million. Closing for the entire summer would negatively impact Maine's economy some \$20 million to \$30 million.

There is one fishery that includes both State and Federally permitted vessels-the mahogany quahog fishery. The current closures have not resulted in a change from what existed last year versus what will go on this year. Therefore, this fishery has not been affected by the recent red tide closures.

The NEFSC has analyzed the general impact to New England fisheries of the recent closure of Federal waters (the PSP temporary Closure Area) to the harvesting of bivalves due to the risk of PSP. In brief, the largest impact is expected to be in Massachusetts and Rhode Island. The impacts to Maine should be small.

A total of 3.9 million bushels of ocean quahogs and 3.1 million bushels of surf clams were landed in 2004 with a value of \$23.6 million and \$29.1 million, respectively.

In the PSP Temporary Closure Area, 296,864 bushels (7.8% of the total) of ocean quahogs were harvested in 2004, worth approximately \$1.78 million, based on an average price of \$6 per bushel. There were 337,696 bushels (10.8% of the total) of surf clams harvested from the proposed FDA PSP Temporary Closure Area in 2004. Using an average price of \$12 per bushel, landings from this area were worth approximately \$4.1 million.

Federal vessel logbook data for 2004 identifies a total of 83 vessels that land surf clams and ocean quahogs from federal waters. For 2004, none of these vessels identified Massachusetts as the state of residence in their permit application, but for seven vessels Massachusetts was their primary landing state. These seven vessels landed a total of 1.3 million bushels (worth \$6.5 million) of ocean quahogs and 4,320 bushels (worth \$45,360) of surf clams in the state, with Bristol County (Massachusetts) receiving the vast majority. Not all of these landings were necessarily from the proposed closed area but see below.

Depending on the homeport of the vessels, the closure may cause trips to be extended due to longer steaming times to grounds outside of the closure. Fishing costs will increase. If these vessels have, in fact, relocated to states further south (New Jersey, for example), it is likely that trips will occur closer to those ports and landings sold further south as well.

It is probable that Massachusetts and Rhode Island processors of quahogs and surf clams caught in Federal waters will be denied this supply for at least the duration of the closure. Other processors may be impacted as well depending on the nature and geographic scope of the prohibitions on purchasing federal waters clams and quahogs.

If vessels are unable to shift harvest out of the proposed closure area (an unlikely scenario), then the values given above represent revenue losses. However, the surf clam and ocean quahog fleet is mobile and vessels are able to redirect their effort. It is likely

that revenue could be made up in areas to the South and West of the proposed temporary closure state which is the state adjacent to the proposed closure.

As of May 31, 2005 1.2 million bushels of ocean quahogs (31% of 2004 landings) and 827,000 bushels of surf clams (26% of 2004 landings) were landed. Assuming this overall rate of harvest applies proportionally to the proposed closed area, 204,836 bushels of ocean quahogs (worth \$1.2 million) and 249,895 bushels of surf clams (worth \$3.0 million) remain to be harvested from the proposed closed area.

Trip level data were assembled at the time the DSEIS for the EFH measures for Amendment 13 were prepared. At that time the most complete information available was for the 2001 calendar year including logbook data for surf clam and ocean quahog vessels. Among other data, these data included location, permit number, bushels, and landed port for trips taken during calendar year 2001. The following summarizes that 2001 information as it pertains to the proposed action: nine different vessels landed approximately 10% (649,214 bushels of combined surf clams and ocean quahog of a total 6.6 million bushels) from inside the proposed FDA PSP Temporary Closure Area. Of these affected landings all but 13 thousand bushels were landed in the port of New Bedford, Massachusetts. Six of the 9 affected vessels listed New Bedford as their home port on their 2001 permit application. The remaining 3 vessels listed a Rhode Island homeport (2 from Tiverton and 1 from Warren).

#### *Issues for Consideration:*

Two key issues regarding the Governor's request are 1) how to determine whether this constitutes a fisheries failure and 2) how to evaluate the economic impact of the failure if it is declared to be one.

Specific considerations include:

1. Red tide is a common phenomenon in Maine state waters. Every year some shellfish beds are closed due to the risk of PSP. Some areas of Maine have been closed since at least the Fall, so these are not due to the current red tide bloom. Although the magnitude of this red tide event is unusual, is there a clear, qualitative difference between this and other red tide closures, or should all red tide closures merit declarations of fishing failures?

2. The duration of the Federal closure or the State closures is unknown. If the closures lasts only a month, is this a fishery failure? Closures of one to several months occur in many other fisheries, although typically areas are closed well enough in advance to allow the industry to plan. Since we cannot anticipate how long the closure will last, it is difficult to determine the magnitude of the economic losses caused by the closure. If the closure is short, the economic losses may be small. Since the basis of the declaration of a fishery failure would be strictly economic in this case (because the stock is not harmed), it is difficult to determine the extent of the economic damage.

3. For ocean quahogs and surf clams--two species fished in Federal waters--the fisheries are managed through allocations of Individual Transferable Quotas. If these

fisheries are opened again during the fishing year, it is possible (depending on how long the closure lasts) for the harvesters to take their full allocation. In this case, there would be no significant economic loss at all over the course of a year, although there could be cash flow difficulties during the closed period. Determining the magnitude of the disaster in this case would have to wait for the conclusion of the fishing year.

4. For industry members dependent on the coastal fishery, the impact of closures is expected to be substantially greater than on the ocean quahog and surf clam fisheries. The State of Maine estimates that the economic impact of the closures on the fisheries alone is \$560,000 per week, and the full loss to the economy is between \$1.68 million to \$2.52 million weekly. Although the full dimensions of the economic impact of the red tide closures will not be known until the shellfish beds are re-opened, we can be sure that individual harvester, processors and others are experiencing a financial set back now.